

Work Order ID 60153

Monday, June 28, 2010 10:46:46 AM



Page 1

Item ID: D412-711-101

Accept



Setup Start



Revision ID:

Item Name: Replacement Bubble Window

Stop



Start Date: 6/28/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 7/2/2010 Req'd Qty: 1.00



Customer:

PROTOTYPE

Reference:

Approvals: Process Plan: ME

Date: 10-6-28 Tooling:

Date:

Run Start



QC:

Date: SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D412-711-101

Prototype

PA

100

0.00



HAND FINISHING THERMOFORMING

Thermoform

Memo

0.00

Thermoforming Machine

Set up Machine as per folio FTA 077 and D711W program

WL 10/06/28
PTO →

110

0.00



HAND FINISHING THERMOFORMING

Thermoform

Memo

0.00

Thermoforming Machine

Cut Blanks to 36" by 39"

B 10/06/28
(X5)

120

0.00



THERMOFORMING MACHINE

Thermoform

Memo

0.00

Thermoforming Machine

Thermoform as per Dwg. D412-711-101 using DT 9640 and Folio FTA 077
Dwg. Rev. PREL Folio Rev.

A

WL 10/06/28
(X5)

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Page 2

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Cust Item ID:

Required Date: 7/2/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

1) Check Surface finish for undesired marks, voids, dimples etc. 2) Check depth of bubble to ensure conformity to drawing tolerances.

(x1) 4 PL 10/06/28.
PTO. →

140

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

1 4 BB 10/06/28
(x1)

150

HAND FINISHING THERMOFORMING

0.00



Thermoform

Memo

0.00

Thermoforming Machine

1) Trim off excess flange material 2) Buff out any light scratches or
blemishes 3) Etch part number and batch number

UL 10/06/28.
(x1) PTO →

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
10/06/28	100	Use .177" thickness to pull so that Folio can be created.	DL	10/06/28		ACCEPTABLE FOR TESTING PURPOSES ONLY, 10-06-24		
10/06/28	150	Allow extra 3/4" material around flanges for testing purpose only. FLANGES CUT SHORTER THAN WHAT'S ON DWG. CONSERVATIVE FOR	DL	10/06/28	1			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/06/28	130	4 units do not conform to shape. Initial set-up of Folio R.C. process (new) set-up	DL	Adjust Folio. temperature settings after each pull to fine tune. Scrap first 4 units.	DL 10/06/28		DL	10/06/28

NOTE: Date & initial all entries

Work Order ID 60153

Monday, June 28, 2010 10:46:46 AM



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Item ID: D412-711-101

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Revision ID:

Stop



Item Name: Replacement Bubble Window

Start Date: 6/28/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 7/2/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

X1

B 10/06/28

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

1) Visually inspect for clarity, and proper formation.

Run testing only

10/06/28

180

Identify as per dwg & Stock Location: _____

0.00



Packaging

Memo

0.00

Packaging

Work Order ID 60153

Monday, June 28, 2010 10:46:46 AM

Page 4

Item ID: D412-711-101

Accept

Setup Start

Revision ID:

Stop

Item Name: Replacement Bubble Window

Start Date: 6/28/2010 Start Qty: 1.00

Cust Item ID:

Required Date: 7/2/2010 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

Now - conforming to Reel
on thickness
" 236 "
Prototype only.

FOR ENGINEERING USE ONLY

A conformity per
Rev. A. *[Signature]*

Picklist Print

Page 1

Monday, June 28, 2010 10:46:45 AM

Work Order ID: 60153



Parent Item: D412-711-101



Parent Item Name: Replacement Bubble Window

Start Date: 6/28/2010



Required Date: 7/2/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A New Issue 06-02-01 JLM
Manufacture in-house 10/06/28 DL

IPP Rev. B.

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MACRLICS.236 		Purchased	No				sf	65.0000	16	16			
Plexiglass G .236"													

Location

Loc Qty

Loc Code

therm

65

113571

65

MACRLICS .177.

Plexiglass G .177"

111315.

80 sq ft. Wh. 10/06/28.

DART AEROSPACE LTD		Work Order: 60153
Description: <u>REPLACEMENT PUMP WINDOW</u>		Part Number: <u>1412-711-101</u>
Inspection Dwg:	Rev:	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST
THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than _____"	✓			
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

Measured by: <u>JB</u>	Date: <u>10/06/28</u>
------------------------	-----------------------

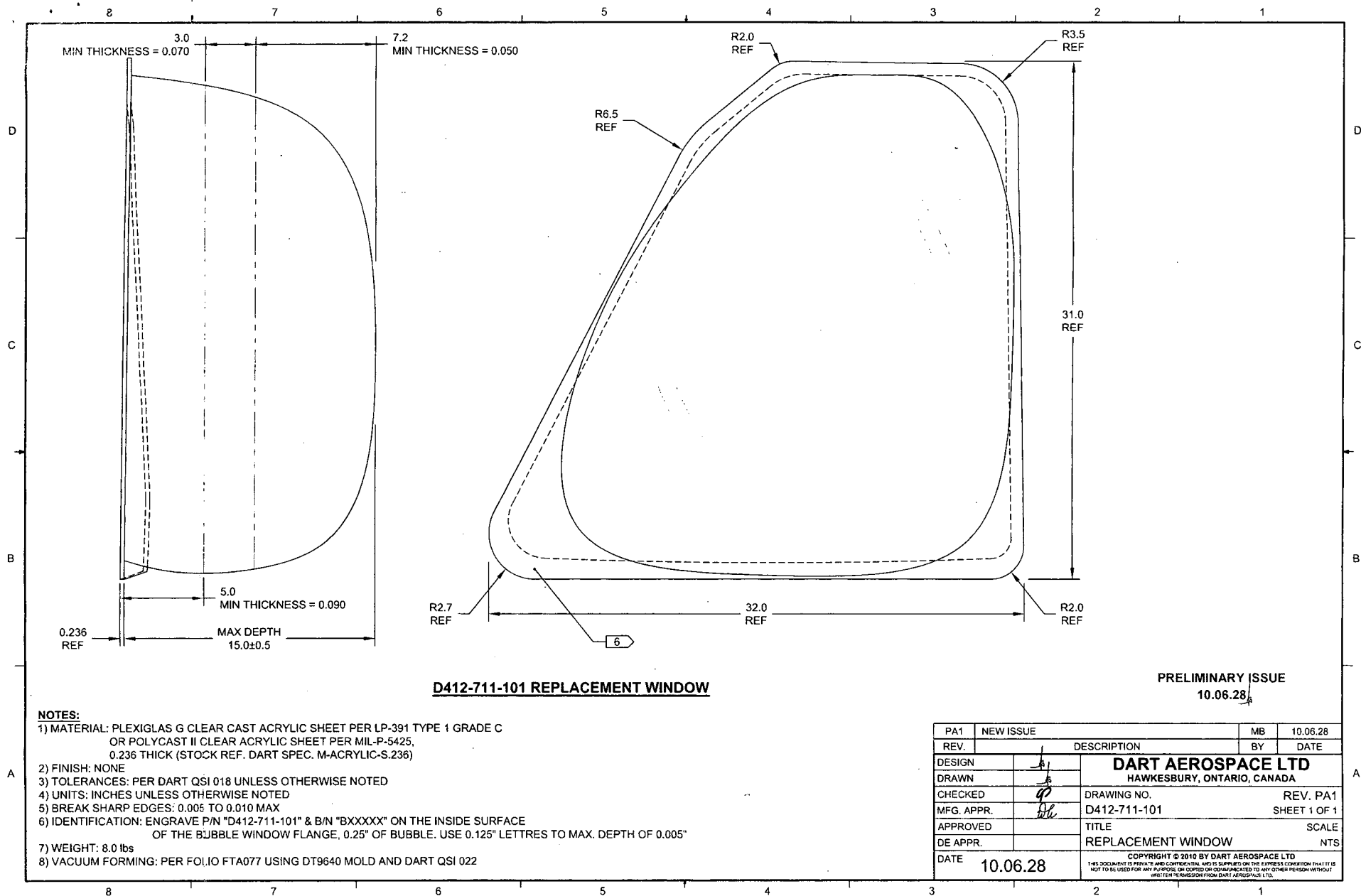
TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
31"	REF	32.5	✓			
32"	REF	33.375	✓			
.090	Min	.055		✓		Due to .177 thickness
.070	Min	.049		✓		
.050	Min	.043		✓		
15	±.5	15.280	✓			

Measured by: <u>JB</u>	Date: <u>10/06/28</u>
Audited by: <u>[Signature]</u>	Date: <u>10.06.29</u>
Preliminary Approval: <u>[Signature]</u>	Date: _____

Rev	Date	Change	Revised by	Approved
B	10.04.14	Added preliminary approval	KJ	

10.04.14



PRELIMINARY ISSUE
10.06.28

PA1	NEW ISSUE	MB	10.06.28
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>[Signature]</i>		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. PA1
MFG. APPR.	<i>[Signature]</i>	D412-711-101	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		REPLACEMENT WINDOW	NTS
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1250 OLD INNES RD. 519 OTTAWA, ONT. K1B 5L3
TEL: 613 745 7043 FAX: 613 745 8163

CERTIFICATE OF COMPLIANCE

SOLD TO: DART AEROSPACE

DATE: 3/18/2009

YOUR PURCHASE ORDER : 8407

OUR SHIPPER NO: 086198

LINE ITEM # : 1

QUANTITY: 3

DESCRIPTION: .177 X 50 X 99 PLEXIGLAS GM

*S
08/04/09*

THESE PARTS WERE MANUFACTURED IN ACCORDANCE WITH: PLEXIGLASS GM ASTM-D4802 FORMALLY LP 391

THIS IS TO CERTIFY THAT THE MATERIAL FINISHES AND FUNCTIONAL REQUIREMENTS OF THE ABOVE LISTED PARTS ARE IN ACCORDANCE WITH THE REFERENCE PROCUREMENT SPECIFICATIONS, CONTROL DRAWINGS OR PARTS DESIGNATION AND LATEST REVISIONS AS REFERENCED ON THE SUBJECT PURCHASE ORDER.

AUTHORIZED REPRESENTATIVE SIGNATURE

Jon Caldwell

JON CALDWELL
BRANCH MANAGER

Receiving Report

Date: 09/04/01

Batch No: 111315

Supplier: SABIC

Dart P/O: 8401

Packing Slip:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Invoice:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Receipt:	Cash	<input type="checkbox"/>	Cr	<input checked="" type="checkbox"/>

Release Note Attached: Yes ☒ No ☐ N/A ☐
Waybill Attached: Yes ☒ No ☐ N/A ☐
Shipment Complete: Yes ☐ No ☐ N/A ☐
QC6 Inspection S. 02/04/03 N/A ☐
Work Order _____ N/A ☐

Discrepancies

Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments
						02

Initials of receiver (if shipment OK) Level 12

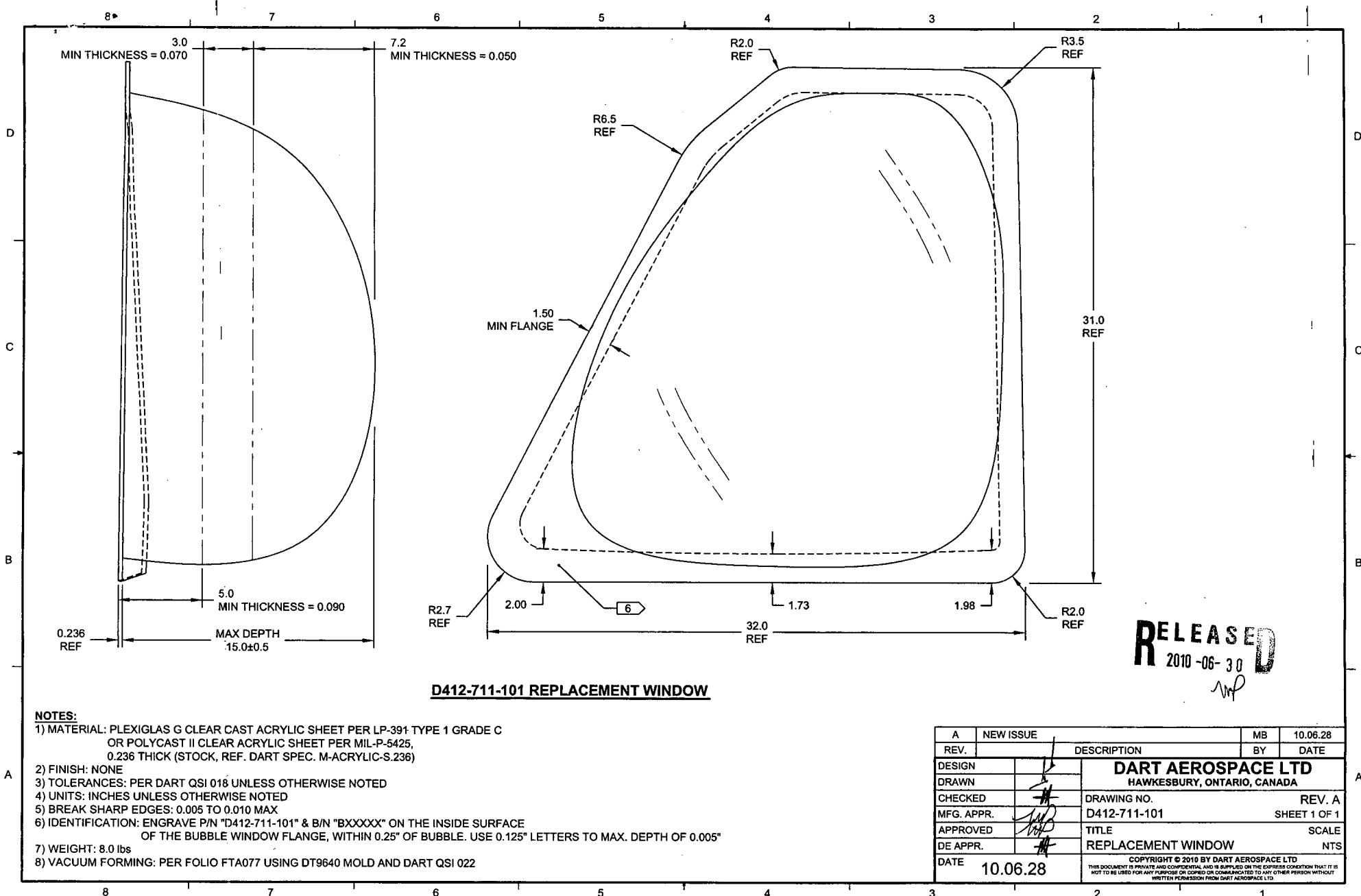
Production/Admin:

Date 09/09/03

Received/Costing RCP 10641

Initial

Location _____



D412-711-101 REPLACEMENT WINDOW

NOTES:

- 1) MATERIAL: PLEXIGLAS G CLEAR CAST ACRYLIC SHEET PER LP-391 TYPE 1 GRADE C
OR POLYCAST II CLEAR ACRYLIC SHEET PER MIL-P-5425,
0.236 THICK (STOCK, REF. DART SPEC. M-ACRYLIC-S.236)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE P/N "D412-711-101" & B/N "BXXXXX" ON THE INSIDE SURFACE
OF THE BUBBLE WINDOW FLANGE, WITHIN 0.25" OF BUBBLE. USE 0.125" LETTERS TO MAX. DEPTH OF 0.005"
- 7) WEIGHT: 8.0 lbs
- 8) VACUUM FORMING: PER FOLIO FTA077 USING DT9640 MOLD AND DART QSI 022

RELEASED
2010-06-30
MP

A		NEW ISSUE		MB	10.06.28
REV.		DESCRIPTION		BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWN					
CHECKED		DRAWING NO.		REV. A	
MFG. APPR.		D412-711-101		SHEET 1 OF 1	
APPROVED		TITLE		SCALE	
DE APPR.		REPLACEMENT WINDOW		NTS	
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